[0010], [0021], [0032], [0051], [0069], [0079], [0101], [0153] correspond with the modifications to the specification made in a 16 June 2003 Preliminary Amendment and a 10 July 2003 Second Preliminary Amendment filed in connection with the Parent Application (Serial No. 09/951,334). These amendments have no impact upon subject matter.

Paragraph **[0001]** has been amended as follows:

[0001] This application is a continuation of and claims the benefit of U.S. Patent Application Serial No. 09/951,334, filed 10 September 2001, which is specifically incorporated herein, in its entirety, by reference, which in turn is a continuation-in-part of ~~and claims the benefit of~~ U.S. Patent Application Serial No. 09/084,156, filed May 21, 1998, now U.S. Patent No. 6,308,162, ~~which is specifically incorporated herein, in its entirety, by reference~~ and which in turn claims the benefit of U.S. Provisional Application No. 60/049,948, filed May 21, 1997 and U.S. Provisional Application No. 60/049,826, filed May 21, 1997, all of which are incorporated by reference herein.

Paragraph **[0009]** has been amended as follows:

[0009] In maintaining a "high end" image, the retailer eschews the volume sales that discount pricing may afford. The higher prices stemming from a high price image operation may yield considerable profit. A careful cultivation of a particular price image can readily result in economic success both for the high end and the low end retailer. In the sense of economic ecology, such pricing strategies place the retailers in different niches so that they do not directly compete with each other. Maximizing the number of niches increases the possible number of retailers and maximizes the amount of money they can extract from the economy. This is but one example of a strategic decision or goal. An ordinary enterprise model cannot combine optimization of enterprise decisions with the retailer's strategic goals; consequently, the model's utility is greatly impacted. This inability to align and optimize an enterprise's operational decisions with its strategic objectives is a

huge problem, and results in billion-dollar pricing inefficiencies in the retailing industry alone.

Paragraph **[0010]** has been amended as follows:

[0010] The present invention provides a computer-implemented method and system for controlling the optimization of a planning model while simultaneously satisfying at least one strategic objective. Until now, there has been ~~now~~ no way for a manager to easily visualize the tradeoffs involved in setting different strategic goals. A pricing manager, for example, may need to understand the tradeoffs involved in driving towards a lower price image to compete with a key competitor. ~~How will a lower price image affect profits?~~ Hence, a question that arises is how might a lower price image affect profits.

Paragraph **[0021]** as follows:

[0021] Product Availability is a strategic objective or decision that can affect sales and profits independent of pricing strategy. Product availability is a measure of how often a product is available for immediate purchase. Certainly, a consumer is not pleased to discover that the desired beach stool is not available. This unavailability may well lose the immediate sale of the unavailable stool. However, the customer may well leave the store without purchasing other items they would have ~~purchase~~ purchased had the item been available. However, increasing product availability generally increases carrying and inventory costs. So the tradeoff is increasing availability versus minimizing carrying and inventory costs.

Paragraph **[0032]** has been amended as follows:

[0032] Next, an effective objective function is constructed by combining the primary objective function with the strategic objectives, each being multiplied by a weighting factor. The resulting effective objective function depends on the same set of operational variables. The effective objective function is then optimized with respect to each of the decision variables, with the enterprise data providing physical constraints

on the optimization process. The precise optimization process depends on the user's selection of optimization methods. As a result of the optimization, optimal values for each of the decision ~~variable~~ variables is obtained. The optimal values of the ~~operational~~ decision variables represent a set of operational decisions that should achieve the primary objective and the strategic objective.

Paragraph **[0051]** has been amended as follows:

[0051] The present invention provides an automated system for implementing a strategic planning model. Such models allow optimizations based on a variety of decision variables. Essentially, these variables can be any of a large number of decisions that must be made in planning a business. The following discussion should not be considered as exhaustive, but price is certainly one of the most apparent ~~decision~~ decisions that most business planners face. Other decision variables include promotional media (how should the product or products be promoted-how much should be spent-what approach should be used, etc.). In terms of a profit objective, if too much money is spent on promotion, profits may be reduced, but if too little is spent, sales will doubtless be decreased. Similar decisions revolve about promotion date (how soon before a sales event should the promotion be launched) and promotional duration (how long should the promotion continue) as well as promotional discount (which items should be put on sale and how much should the price be decreased below the usual optimized price).

Paragraph **[0069]** has been amended as follows:

[0069] Note that the task of selecting the Primary Objective form the Aggregate Measure Table may also ~~includes~~ include the further task of selecting whether the Objective is to be maximized or minimized. Strategic Objectives are also included in the Aggregate Measure Table and are selected by the user. The system gives the user the option of ranking the multiple Strategic ~~Objects~~ Objectives in terms of weights to prioritize multiple strategic objects or in terms of a target value for a particular Strategic Objective. When presented with a target value for a Strategic Objective, the system operates to find the proper weight for the Objective that will yield the target value after

optimization. When presented with the weight of a Strategic Objective, the system proceeds to optimize the model in light of that weight.

Paragraph **[0079]** has been amended as follows:

[0079] At this step, the user selects a primary goal or objective to be analyzed, along with secondary goal(s) and strategic objective(s). A convenient manner of making the selection is use of the ~~Aggregated~~ Aggregate Measures Table. The system is aware of the composite nature of many of the entries and derives multiple goals and strategic objectives from one or more table entries. Alternatively, the goal(s) and strategic objective(s) can be individually selected from separate Goals and Strategic Objective tables. The details thereof are discussed below in conjunction with **FIG. 6**. Normally, the principal goal is denoted as the "Primary Goal or Objective". There may actually be more than one primary goal selected in which case the goals are either treated in order with successive optimizations or are give different weights and optimized simultaneously. Besides the simple or compound primary goal ~~the~~ , there may be an additional Strategic Objective. With a Strategic Objective, the Primary Goal is optimized for a Strategic Objective target or over a range of target values for the Strategic Objective. Keep in mind that the primary goal/objective is subject to actual physical limitations/constraints whereas there are no direct physical constraints on the Strategic Objective. By looking at how the Primary Objective is altered by the Strategic Objective, the manager obtains a clear picture of the economic cost of implementing the Strategic Objective. The Strategic Objective may also be compound wherein the various strategic components are given different weights.

Paragraph **[0101]** has been amended as follows:

[0101] The price image can be used in conjunction with the present invention to address a long-standing problem with retail demand modeling. Retailers have found that if a demand model is used to optimize prices on items to yield the greatest gross profit, the model will invariably choose prices that are higher than what a human price manager would have intuitively chosen. The typical outcome is that, in the short term, shoppers

continue to buy products at these higher prices, and this does in fact yield a higher gross profit. However, over the long term, customers become aware that the price image of the ~~stored~~ store has risen, and eventually turn to other stores. Thus, controlling the price image from the outset can prevent this problem with different consumer responses on different time scales. By determining one's price image from existing prices, a retailer could then use a demand model, in the context of the present invention, to obtain greater profit even while maintaining the same overall price image.

Paragraph **[0146]** has been amended as follows:

[0146] Fig. 16 provides an example of how the predicted profits from a demand model could vary according to the price image of the ~~that~~ particular group of items. By using competitive data, a retail pricing manager could find out the price image of all the other stores competing in the market with their store. For example, suppose the manager determines that the store should have a price image of -6.0 (measured relative to the market), this corresponds to choosing a value -6.0 from the horizontal axis, and then having the system optimize prices such that the point X on the graph is attained, realizing a profit of $38,000. Note that the manager can also use this display to determine how much more profit a less negative price image would yield.

Paragraph **[0153]** has been amended as follows:

[0153] This routine utilizes known interpolation techniques to ~~interpolated~~ interpolate a value of Ψ from the Constraint Overview Table. The input to this routine includes ~~of.~~ the Constraint Overview table; the specified target values for the constraint functions, given by ϕ^{targ}, and the values Ψ^{low} and Ψ^{high} which bound the location in the table where the desired solution is to be targeted. The output form this routine is the value Ψ^{est}, which is an interpolated value of a function $\Psi(\phi)$ that is constructed from the part of the table containing Ψ^{low} and Ψ^{high}. In general, this interpolated value can be constructed from any prior art interpolation routine, as long as the routine makes use of the data in the Constraint Overview table that is near the entries Ψ^{low} and Ψ^{high}; otherwise, the accuracy of the interpolation will be compromised. Below ~~we show~~ is shown one